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VOCATIONAL COURSES IN MATHEMATICS FOR SECONDARY SCHOOLS.*

By David Eugene Smith.

Professor Smith stated that it was his intention to speak rather upon the general problem than upon any details. He stated that the problem of the industrial mathematics was a new one in all new countries, but an old one in the older civilizations. The reason why the problem is new here is that a country like ours tends to consider the individual more than the state, whereas in various older countries the opposite is the case. All types of vocational training have been thought to arrest the development of the individual, and this has actually been the case in certain types of schools in Europe.

Our problem, he said, is to avoid this danger and at the same time to secure the good results that must come to many students from this type of education. He stated that in the older countries the tradition still obtained to a considerable extent that the child followed the trade of the parent, and that it was therefore natural to expect that he should be put into a vocational school preparing him for that trade. This was favored by governments on the well-known ground that a generally educated proletariat was not always desirable.

Professor Smith then took up the influences of the world war upon this problem. It was his opinion that the poverty that would result in all countries would make it necessary to have a much better type of industrial education than we have had in the past. Individualism has shown unexpected weakness in certain respects and paternalism has shown unexpected strength, so that possibly our views as to arresting the development of the individual may be subject to change. He also stated that our general education, which has been largely in the hands of the so-called commercial middle class, is likely to pass to quite an extent into the hands of labor and that he felt that the change would not be undesirable. It would result in a more economic and productive education. It was his opinion that the new order would be entirely opposed to a narrow education for the reason that labor would not block the progress of its children.

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* Report of remarks by Professor Smith at a meeting of the New York Section of the Association of Teachers of Mathematics in the Middle States and Maryland, Oct. 26, 1917.

He felt that labor would demand from a school its money's worth, and that what Dr. McFarlane has called the camouflage of pedagogy would no longer be in the ascendency. Women, having shown a great power recently in all industrial lines, would be educated for industry in a way that was not thought of when the war began.

In order to arrange for a type of student suited to a particular type of school, he stated that there was considerable hope of help from the psychologists, although at present this movement was merely in its infancy.

He then summarized the work that was being done in other countries in the matter of industrial education and drew the conclusion that for America the best grade in which to seriously begin this work was the tenth.

He advocated a general reform of our mathematical work before the tenth grade, with the result of having all pupils know the useful part of algebra, the significance of intuitive geometry, the nature and purpose of trigonometry, and the meaning of a mathematical proof. He felt that after that they might safely be allowed to specialize in industrial and commercial lines, or in the type of pure mathematics now in our secondary schools.

He called attention to the two extremes in the teaching of industrial mathematics, the first being that of laying a thorough scientific basis in pure mathematics and building the applied mathematics upon this foundation, and the second being the Perry idea of beginning at once with applied mathematics and taking only so much of the theory as might be necessary for a practical working knowledge.

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